

Address to the Officers Trainees of 85th Foundation Course at
Lal Bahadur Shastri National Academy of Administration (LBSNAA)
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“Creative Leadership in the Global Knowledge Society”

*Creative leadership means exercising
The vision to change the traditional role.*

Friends, I am delighted to be with you all, the young IAS Officers, who will soon be taking important assignments in the national scenario.

I remember my own younger days in Rameswaram when the whole village used to look with awe the “Collectors”. The post of collectors first created in 1772 as the focal point of revenue administration, has gone through several transformations over the years. I have always perceived the role of Collectors as integrators, who understand the total chain of development from policy to beneficiary. They particularly provide the last mile connectivity to development facilitating enhanced quality of life to the citizens. During my professional career and now, I have come across many distinguished IAS officers, and particularly many energetic, passionate young collectors and commissioners, who have impressed me with their skills and result orientation. With such a pride of place, what else can be the guiding spirit of young IAS officers other than being a partner in realizing the vision of the nation. So young friends, you have a well designed goal in front of you and you can make a difference to the nation through your performance. My greetings to all of you.

The country today has an ambience with accomplishments in various sectors and with a spirit that “we can do it”. We have many challenges before us to meet our vision for 2020. But then we have to see them as opportunities for using our experience, our innovative capabilities, our technological potential, our networking skills and our values based on our civilizational heritage to achieve our vision and development profile.

For the sustainable growth in the global knowledge economy, the thrust has to be on the development of large number of creative leaders. I would like to talk on the topic **“Creative Leadership in the Global Knowledge Society”**.

Today during my talk, I would like to first share my experience with a few senior IAS Officers who had participated in mission mode programme. Then I will talk about knowledge society and the linkage between national economic development and creative leadership. This will be followed by leadership style of few creative leaders whom I personally know. Finally I will conclude with the special traits, I had observed in these creative leaders.

My experience with Civil Service officers

Friends, when I am in the midst of Officers Trainees of 85th Foundation Course, my thoughts go back to three senior Civil Service officers whom I came across during different phases of my life. Shri TN Seshan was the Joint Secretary and later Additional Secretary during the seven years of SLV3 programme from concept to launch. One unique quality in him which I saw and cherished is, as a board member of SLV3, he would read the agenda papers fully and come ready with suggestions and questions on each one of the agenda points. Also, he will insist on reporting of the action taken on the minutes of the previous board meeting. Both these actions of Shri Seshan enhanced the contribution of the board to the project

and enabled me as a Project Director to keep up the project time schedule. His major trait was his determination to achieve the goals of the missions in-time.

During the guided missile programme phase in 1982-1983, Shri Rao Saheb Krishnaswamy was the Cabinet Secretary when I was the Director, DRDL. Before the submission of the cabinet paper of the missile programme to the cabinet, there was pre-meeting with Shri Venkataraman, the then Raksha Mantri, where Shri Rao Saheb Krishnaswamy and the three vice chiefs of the Armed Forces were present. In the high level meeting, I was called to present the missile programme study report. There was tremendous criticism from the Armed forces that, not a single missile has been successfully developed so far, and how you can sanction development and production of five missiles together. Dr. Arunachalam, the then SA to RM and myself explained the technical and leadership path of the programme. Still the members were not convinced. That was the time, **Shri Rao Saheb Krishnaswamy** made a remark which is still ringing in my mind. He said *“Hon’ble Minister sir, I heard all the discussion. But I would like to convey one thing. The time has come, we have to take a decision, exploring new path with courage. We should not be mixed-up with the past. Presently, we are seeing a committed passionate leadership for the missile programme. I consider that all the missiles should be developed, simultaneously in an integrated way.”* Based on this remark, Shri Venkataraman named the programme as Integrated Guided Missile Programme. After this meeting, within two months, the programme was approved by the cabinet. I got the necessary funds, human resource and a new management structure including the funds required for establishing certain key production facilities. Two strategic missiles are in production and other projects are progressing.

The third unique instance happened when the missile programme was in progress. The missile programme is steered by a high level board called the Guided Missile Board. It was chaired by SA to RM with Defence Secretary, Secretary – Defence Production, Secretary – Expenditure, three vice chiefs, DGO, CMD – BDL, HAL and BEL, Director – VSSC and Director – DRDL as members. When the programme was in the initial stages of progress, there was a large demand for development space, environmental facilities and assembly facilities due to safety considerations leading to a creation of a new complex. Fortunately, we had 2500 acres of land, but we needed additional funds rupees 60 crore for creation of the new facilities with equipments for the project. Many of the members thought that it was very difficult and there would be a need for a new cabinet paper for sanction. Within a short span of six to eight months of the previous sanction, whether the government will sanction additional funds, was in doubt. I still remember Shri R. Ganapathi, the then Secretary – Expenditure said, “I like this programme. We must support the programme in full.” He said that if the board approved, he would visit the site, discuss with the scientists and come up with a proposal for sanction. Board authorized him to do so. He visited DRDL and RCI area and recommended approval of the funds for the additional facilities which are vital for the timely completion of the missile programme. We got the funds and the programme progressed without any holdup. The programme was empowered to give a technology project for completion of the special facilities in two years.

I am referring to you friends, these incidents to illustrate, how the nation can progress exponentially through a fast decision making process by the policy and procedure making team in the government which has to be synchronous with the project team members who are executing the project. When you take a decision on a focused problem, you have to ask yourself “what can I give” or “how can I help”. These are the two action oriented thoughts needed for accelerated national development today. Now I would like to discuss about the integrated thinking and action needed for second green revolution.

Second Green Revolution

I would like to visualize a system how district administration can become a partner to a mission. Let us take second green revolution as a mission by the Agricultural Ministry as a model. Agricultural Ministry has a target of producing around 340 million tonnes of food grains by the year 2020 with reduced land, reduced availability of water and reduced human resource. Now let us identify the stakeholders. The stakeholders are farmers, agricultural scientists, meteorologists, agricultural planners, seed bank, water and irrigation system managers, organic and inorganic fertilizers manufacturers, chemical and bio-pesticides manufacturers, farm equipment lending agencies, co-operative banking system and financial institutions, warehouses and godowns, procurement agencies, distribution system and the coordinating ministries from the Central and State Governments. The success of the mission is totally dependent on the synchronized integrated action among all the stakeholders and also the integrated planning, funding, scheduling and proper execution.

I have been discussing with another great civil service officer, Shri MR Sivaraman, who along with the political leaders and scientists played a key role in the first green revolution. As you all are aware, the first green revolution of the eighties was the product of intensive and extensive extension work done by everyone connected with agriculture under the leadership of the District collectors. That was the time when the Blocks were the unit of development and were functional. Dr. D. BENOR was the person who had laid the ground plan in coordination with ICAR for a national agricultural extension system. He defined extension as it relates to the process of carrying the technology of scientific agriculture to the farmer in order to enable him to utilize the knowledge to better his economy. Agricultural extension service seeks to impart the necessary skills to the farmers for undertaking improved agricultural operations, to make available to them timely information on improved practices in an easily understandable form suited to their level of literacy and awareness, and to create in them a favourable attitude for innovation and change".

The extension organization structure commenced with VLW -the village level worker who was the kingpin. At the block level was the agricultural extension officer, the BDO was the team leader at that level. At the district level, district agricultural officer provided the technical support. The collector was the leader. They collectively prepared an annual agricultural plan including plans for increasing irrigation potential, use of improved seeds and fertilizers. Plans were also drawn up for pesticides distribution. The village plan was executed at the village level by the VLW closely supervised by the agriculture staff. Inputs were arranged at the block level. Payments and supplies were made invariably through cooperatives. The collector's role and effectiveness were judged by his performance in all these areas as they were measurable in a quantitative manner. This system has somehow gradually collapsed after the stoppage of World Bank funding in 1989.

Now there is a need to bring back the extension structure from the village to the district, so that we can ensure minimum growth rate of 4% per annum in our agriculture. Simultaneously, we should also use the growth in IT for improving the communication to the farmers. Also, we can screen films which can give first hand feel to the farmers on the use of technology. We should aim at synchronous seamless action from Secretary (Agriculture) GOI to the village level extension worker. The collector should take the leadership role for the second green revolution.

Rehabilitation after tsunami

I had visited Nagapattanam and adjoining villages in 2005 after the devastation created by tsunami of 2004. In a short period of five months, Shri Radhakrishnan, the then collector of Nagapattanam had adopted a unique method of rehabilitation of the all the people affected by tsunami. He had created a rapid productive partnership with NGOs, relief organizations, citizens and the government functionaries to plan and execute the relief, so that the relief reached the people very fast and people were lifted away from the trauma created by tsunami. His work has been fully documented and I am sure it would have become a case study at LBSA.

Dimensions of Knowledge society and Economic Development

Dear friends, the world is graduating towards the knowledge society. In the knowledge economy the objective of a society changes from fulfilling the basic needs of all-round development to empowerment. The education system will be promoted by creative, interactive self learning – formal and informal education with focus on values, merit and quality. The workers instead of being skilled or semi-skilled will be knowledgeable, self-empowered and flexibly skilled. The type of work instead of being structured and hardware driven will be less structured and software driven. Management style will emphasize more on delegation rather than giving command. Impact on environment and ecology will be strikingly less compared to industrial economy. Finally, the economy will mostly be driven by knowledge and knowledge driven industry. What is the linkage between the growth of the economic development and knowledge society. Let us look at:

- > Nations Economic development is powered by competitiveness.
- > The competitiveness is powered by knowledge power.
- > The knowledge power is powered by Technology and innovation.
- > The Technology and innovation is powered by resource investment.
- > The Resource investment is powered by revenue and return on Investment.
- > The Revenue is powered by Volume and repeat sales through customer loyalty.
- > The customer loyalty is powered by Quality and value of products.
- > Quality and value of products is powered by Employee Productivity and innovation.
- > The Employee Productivity is powered by Employee Loyalty, employee satisfaction and working environment.
- > The Working Environment is powered by management stewardship.
- > Management stewardship is powered by Creative leadership.

For success in all missions we need creative leaders. Creative leadership means exercising the vision to change the traditional role from the commander to the coach, manager to mentor, from director to delegator and from one who demands respect to one who facilitates self-respect. Creative Leader will have a mission to work with integrity and succeed with integrity. Also creative leaders are concerned about their corporate social responsibility and they would like to give more to the society than what they have drawn. For a prosperous and developed India, the important thrust will be on the growth in the number of such creative leaders who can create wealth to their institutions and also contribute to the upliftment of environment and people in their neighbourhood.

During the last five decades of my professional career, I have come across great human beings who have become examples for various dimensions of creative leadership. I would like to present few examples of creative leaders who have made unique contribution to the growth of India.

Now I would like to talk about creative leaders.

Space Visionary

I was fortunate to work with Prof. Vikram Sarabhai for seven years and while closely working with him, I saw the dawn of the vision for the

space programme in a one page statement. Witnessing the evolution of this one page by a cosmic ray physicist, a great scientific mind and be a part of the team which has been working ceaselessly for many years to realize the vision have been of really great learning for me. Also I am thrilled to see the famous vision statement of Prof Vikram Sarabhai made in the year 1970 which states “India with her mighty scientific knowledge and power house of young, should build her own huge rocket systems (satellite launch vehicles) and also build her own communication, remote sensing and meteorological spacecraft and launch from her own soil to enrich the Indian life in satellite communication, remote sensing and meteorology. The projects selected in space programme, are designed to meet the societal needs”. Total 150 transponders are there in the geo-synchronous orbit for providing connectivity to the nation. If I look at this vision statement today, I am overwhelmed to see the results of this statement. Today India can build any type of satellite launch vehicle, any type of spacecraft and launch from Indian soil. India also has launched Chandrayaan and has successfully placed the satellite in Lunar Orbit and now it is preparing for manned missions to other planets. India has proved that through space science and technology, we can provide effective communication, resource mapping, disaster predication and disaster management systems. I would like to give an incident which demonstrate the vision of Dr. Vikram Sarabhai. How spiritual leader and scientific leader can come together for assisting the realization of foundation of space programme.

Purpose of life: It was during early 1960's, the founder of Indian Space Research Programme Prof. Vikram Sarabhai with his team, had located a place technically most suited for space research after considering many alternatives. The place called Thumba in Kerala, was selected for space research as it was near the magnetic equator, ideally suited for ionospheric and electrojet research in upper atmosphere.

The major challenge for Prof Vikram Sarabhai was to get the place in a specific area. As was normal, Prof. Vikram Sarabhai approached the Kerala Government administrators first. After seeing the profile of the land and the sea coast, the view expressed was that, thousands of fishing folks lived there, the place had an ancient St Mary Magdalene Church, Bishop's House, and a school. Hence, it would be very difficult to give this land and they were willing to provide land in an alternative area. Similarly the political system also opined that it would be a difficult situation due to the existence of important institutions and the concern for people who were to be relocated. However there was a suggestion to approach the only person who could advise and help. That was “Rev Father Peter Bernard Pereira” who was Bishop of the region. Prof Vikram Sarabhai approached the Bishop on a Saturday evening, I still remember. The meeting between the two turned out to be historical. Many of us witnessed the event. Rev Father exclaimed, “Oh Vikram, you are asking my children's abode, my abode and God's abode. How is it possible?” However, both had a unique quality that they could smile even in difficult situations. Rev Father Peter Bernard Pereira asked Prof. Vikram Sarabhai to come to church on Sunday morning at 9.00 AM. Prof. Vikram Sarabhai went to the church with his team again on Sunday. At that time the prayer was progressing with the recitation of Bible by Father Pereira. After the prayer was over, the Bishop invited Prof. Vikram Sarabhai to come to the dais. The Rev Father introduced Prof. Vikram Sarabhai to the people, “Dear children, here is a scientist, Prof. Vikram Sarabhai. What do sciences do? All of us experience, including this church, the light from electricity. I am able to talk to you through the mike which is made possible by technology. The diagnosis and treatment to patients by doctors comes from medical sciences. Science through technology enhances the comfort and quality of human life. What do I do, as a preacher? I pray for you, for your well being, for your peace. In short, what Vikram is doing and what I am doing, are the same - both science and spirituality seek the Almighty's blessings for human prosperity in body and mind. Dear Children, Prof Vikram says, he would build within a year, near

the sea-coast, alternative facilities to what we are having. Now dear children, can we give your abode, can we give my abode, can we give the God's abode for a great scientific mission?" There was a total silence, a pin drop silence. Then all of them got up and said '**Amen**' which made the whole church reverberate.

That was the church where we had our design centre, where we started rocket assembly and the Bishop's house was our scientists' working place. Later the Thumba Equatorial Rocket Launching Station (TERLS) led to the establishment of Vikram Sarabhai Space Centre (VSSC) and the space activities transformed into multiple space centers throughout the country. Now this church has become an important centre of learning, where thousands of people learn about the dynamic history of the space programme of India and the great minds of a scientist and spiritual leader. Of course, the Thumba citizens got the well equipped facilities, worshiping place and educational centre in an alternate place at the right time.

When I think of this event, I can see how enlightened spiritual and scientific leaders can converge towards giving reverence to the human life.

Of course the birth of TERLS and then VSSC gave the country the capability for launch vehicles, spacecraft and space applications that have accelerated social and economic development in India to unprecedented levels.

Today, among us, Prof Vikram Sarabhai is not there, Rev Peter Bernard Pereira is not there, but those who are responsible for creation and making flowers blossom will themselves be a different kind of flower as described in the Bhagwat Gita: "See the flower, how generously it distributes perfume and honey. It gives to all, gives freely of its love. When its work is done, it falls away quietly. Try to be like the flower, unassuming despite all its qualities". What a beautiful message, to the humanity on the purpose of life reflected the spiritual component.

Success and Failure Management

Three decades ago while I was working at ISRO, I had the best of education which won't come from any university. I will narrate that incident. I was given a task by Prof. Satish Dhawan the then Chairman, ISRO to develop the first satellite launch vehicle SLV-3, to put ROHINI Satellite in orbit. This was one of the largest high technology space programmes undertaken in 1973. The whole space technology community, men and women, were geared up for this task. Thousands of scientists, engineers and technicians worked resulting in the realization of the first SLV-3 launch on 10th August 1979. SLV-3 took off in the early hours and the first stage worked beautifully. Even though all stage rockets and systems worked, the mission could not achieve its objectives, as the control system in 2nd stage malfunctioned. Instead of being placed in the orbit, the Rohini satellite went into Bay of Bengal. The mission was a failure. There was a press conference at Sriharikota, after the event. Prof. Dhawan took me to the press conference. And there he announced that he takes responsibility for not achieving the mission, even though I was the project director and the mission director. When we launched SLV-3 on 18th July 1980, successfully injecting the Rohini Satellite in to the orbit, again there was a press conference and Prof. Dhawan put me in the front to share the success story with the press. What we learn from this event is that the leader gives the credit for success to those who worked for it, and leader absorbs and owns the responsibility for the failure. This is the leadership. The scientific community in India has the fortune to work with such leaders, which resulted in many accomplishments. This success generated great happiness among all my team members. This is an important lesson for all youth who are aspiring to be tomorrow's leaders.

Leadership for self-sufficiency in food

The vision for the First Green Revolution emanated from the political leadership of Shri C. Subramaniam. With the Visionary leadership of Shri

C. Subramaniam, the team with the scientific leadership of Nobel Laureate Dr. Norman Borlaugh and Dr. M.S. Swaminathan, with the active support of Shri Shivaraman, Secretary Agriculture, Dr. M.S. Swaminathan in partnership with agricultural scientists and farmers liberated India from the situation of what was called “ship to mouth existence”. Through an effort of historical magnitude, India attained near self-sufficiency in food through “Seed to Grain” mission. As part of this first green revolution, the country has been able to produce over 230 million tonnes of food grains per year now.

The political leadership and the scientific leadership has been able to build the capacity among our scientists, researchers and farmers to take up the mission of “*second green revolution*” which is indeed a knowledge graduation from characterization of soil to the matching of the seed with the composition of the fertilizer, water management and evolving pre-harvesting techniques for such conditions. The domain of a farmer’s work would enlarge from grain production to food processing and marketing.

India has now embarked upon the Second Green Revolution which will enable it to further increase the productivity in the agricultural sector. By 2020 India would require to produce over 340 million tonnes in view of population growth and increased purchasing power. The increase in the production would surmount many impeding factors such as reduce availability of land, shortage of water and reduced availability of agricultural workforce. Our agricultural scientists and technologists in partnership with farmers have to work for increasing the average productivity per hectare from 1.2 tonnes to better than 3 tonnes. The type of technologies needed would be in the areas of development of seeds that would ensure high yield varieties even under constraints of water and land.

Leadership with transparency

The Delhi Metro Rail Project has given to the nation the potential of executing a fast transportation system using high technology with reliability through a time bound mission mode operation. Delhi, the Capital of the country with over 14 million populations, has the distinction of having a world class metro rail with frontline technologies. The work on the metro rail commenced on 1st October 1998 and the first phase with three lines covering 66 kms has been completed by December 2005. The second phase with 121 kms of line length is already functional.

Delhi Metro Rail Corporation has brought to the country, the most advanced rail technologies for the first time. The notable gains to the country are, light weight stainless steel, sleek, modern trains with pneumatic springs, regenerative braking, public information display, wide vestibules and automatic doors. The sophisticated coach technology, which was not available in the country so far, has been transferred to M/s. Bharat Earth Movers Ltd., Bangalore, which is now assembling these trains with progressive indigenization. BEML is now in a position to supply train sets needed for Phase-II of Delhi Metro Rail Project and meet the requirement for Metros coming up in other cities of the country.

Mr. E. Sreedharan, the Managing Director of Delhi Metro has ensured that, all the scheduled sections were completed by their target date or before and within their respective budgets through his programme management skills. The dedicated and transparent leadership backed up with professional competence of Mr. Sreedharan has given to the nation, one of the best transportation systems of the world at the most economic cost. He is a recipient of many national and international awards. Also, he is in demand for undertaking the development of metro system in different countries of the world which he has politely declined due to pre-occupation with committed Indian programmes.

Leadership for science

I was reading the two volumes of the book titled 'The Big and the Small' from the Microcosm to the Macrocosm written by Dr. G. Venkataraman. In this latest book, author establishes fascinating link between particle physics and cosmology in two volumes. Since I am in the midst of the youth, I thought of sharing with you an incident narrated in the book about Sir CV Raman. Raman was in the first batch of Bharat Ratna Award winners. The award ceremony was to take place in the last week of January, soon after the Republic Day celebrations of 1954. The then President Dr. Rajendra Prasad wrote to Raman inviting him to be the personal guest in the Rashtrapati Bhavan, when Raman came to Delhi for the award ceremony. He wrote a polite letter, regretting his inability to go. Raman had a noble reason for his inability to attend the investiture ceremony. He explained to the President that he was guiding a Ph.D. student and that thesis was positively due by the last day of January. The student was valiantly trying to wrap it all up and Raman felt, he had to be by the side of the research student, see that the thesis was finished, sign the thesis as the guide and then have it submitted. Here was a scientist who gave up the pomp of a glittering ceremony associated with the highest honour, because he felt that his duty required him to be by the side of the student. It is this character that truly builds science.

Conclusion

Dear friends, I have seen three dreams which have taken shape as vision, mission and realization. Space programme of ISRO (Indian Space Research Organization), AGNI programme of DRDO (Defence Research and Development Organization) and PURA (Providing Urban Amenities in Rural Areas) becoming the National Mission. Of course these three programmes succeeded in the midst of many challenges and problems. I have worked in all these three areas. I want to convey to you what I have learnt on leadership from these three programmes.

- a. Leader must have a vision.
- b. Leader must have a passion to transform the vision into action.
- c. Leader must be able to travel into an unexplored path.
- d. Leader must know how to manage a success and failure.
- e. Leader must have courage to take decision.
- f. Leader should have Nobility in management.
- g. Every action of the leader should be transparent.
- h. Leader must work with integrity and succeed with integrity.

For a paradigm shift in national development, we need large number of creative leaders and statesmen in the world. I am sure, Lal Bahadur Shastri Academy is in the mission of developing such leaders for the country.

My greetings and best wishes to all of you for success in your professional career.

May God Bless you.

Dr. APJ Abdul Kalam

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